

IN THE CLAIMS:

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Claim 1. (Amended) An evaporator[, especially for the sugar industry,] with at least two heat exchangers [(4, 5)], into the top of which the medium [(M)] to be concentrated is loaded and which are heated with steam [(D1, D2)] with different compositions and different pressures in a cross stream, wherein the concentrated medium and the exhaust steam generated after coming out of the heat exchangers [(4,5)] are carried off separately, [characterized by the fact that] wherein the medium being concentrated [(M)] is loaded by a medium distribution [(7)] common to [all] the heat exchangers [(4,5)] and [by the fact that] wherein the medium [(M)] leaving the first heat exchanger [(4)] goes directly into the [next] second heat exchanger [(5)], [by the fact that] wherein only after the medium [(M)] comes out of the second heat exchanger [(5)] are the exhaust steam and the medium [(M)] separated and [by the fact that] wherein the steam spaces [(12, 18)] in the heat exchangers [(4, 5)] separated from the exhaust steam space [(8)] are separated from one another by a common dividing wall [(19)].

Claim 2. (Amended) The evaporator in Claim 1, [characterized by the fact that] wherein the condensate from the heat exchangers [(4, 5)] is carried away in separate pipes.

Claim 3. (Amended) The evaporator in Claim 1, [or 2, characterized by the fact that] wherein the heat exchangers [(4, 5)] are made of different materials.

Claim 4. (Amended) The evaporator in Claim[s] 1, [to 3, characterized by the fact that] wherein the first heat exchanger [(4)] is heated with exhaust steam [from a steam dryer for pulp] and the second heat exchanger [(5)] with turbine steam [from a power plant, for example].